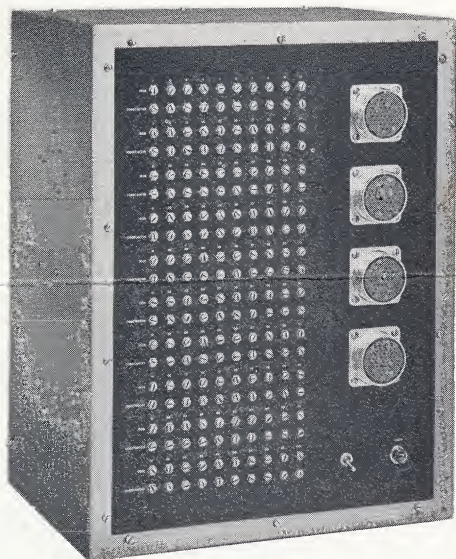


PACE



MODEL BRJ18

ICE POINT THERMOCOUPLE REFERENCE JUNCTION

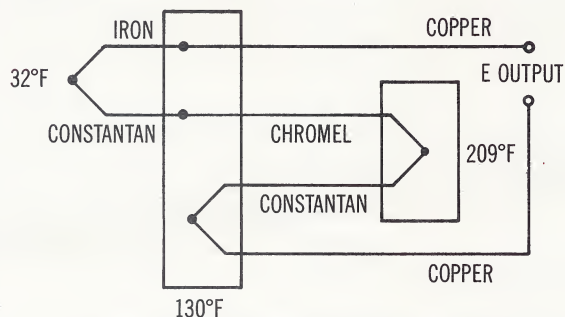
32°F reference temperature
without refrigeration and
ice bath maintenance.

Up to 100 channel capacity.

Cabinet or Rack mount.

Permits copper transmission lines.

The BRJ18 Thermocouple Reference Junction provides an accurate ice point reference for multichannel thermocouple systems. The unit operates from the 115 volt 60 cycle line, eliminating the necessity for ice bath maintenance without the use of refrigeration.



Typical BRJ18 Reference Junction circuit

The principle of operation is illustrated in the accompanying diagram, showing an Iron-Constantan thermocouple probe at 32°F connected to the BRJ18 reference circuit. The iron thermocouple input lead is connected to the copper output, the junction temperature being 130°F. If the Constantan input lead were

similarly connected to a copper output the effective reference temperature would be 130°F, and the output voltage would be 2.82 mv (as tabulated in any 32°F table). Between the Constantan input and copper output there is interposed a Chromel-Constantan thermocouple with the Chromel-Constantan junction at 209°F. This junction introduces a series voltage of -2.82 mv (the difference between Chromel-Constantan entries at 209°F and 130°F in any reference table), and the net output voltage is zero, indicating an effective system reference temperature of 32°F. For thermocouples other than Iron-Constantan, similar circuits are used with appropriate reference temperature and series thermocouple combinations.

The standard Model BRJ18 allows only one thermocouple type in all channels. Various thermocouples at one or several reference temperatures can be accommodated with additional internal circuitry. Also, extremes of high and low temperature reference can be achieved using series thermopile circuits of appropriate polarity. These units are available on special order.

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13035 Saticoy Street — North Hollywood, California

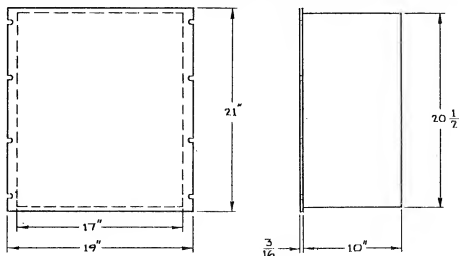
TRiangle 7-0727

TWX 213-765-5299

STANDARD TERMINAL LOCATIONS

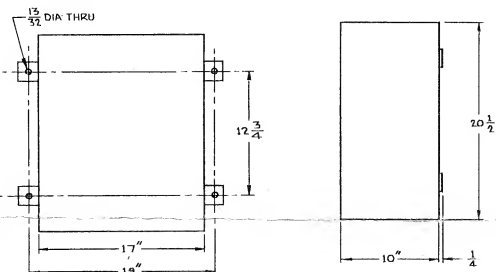
RACK MOUNTING STYLE (BRJR SERIES)

— INPUT —		— OUTPUT —	
TERMINATION	LOCATION	TERMINATION	LOCATION
Screw Terminals	Rear	Screw Terminals	Rear
Screw Terminals	Front	Screw Terminals	Front
Screw Terminals	Front	Screw Terminals	Rear
Screw Terminals	Rear	Screw Terminals	Rear
Screw Terminals	Front	AN Connector	Front
Screw Terminals	Front	AN Connector	Front
Screw Terminals	Front	AN Connector	Rear
Jacks	Rear	AN Connector	Rear
Jacks	Front	AN Connector	Front
Jacks	Front	AN Connector	Rear



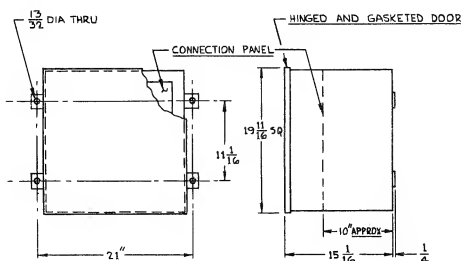
BENCH CABINET STYLE (BRJ SERIES)
(wall mounting straps optional)

— INPUT —		— OUTPUT —	
TERMINATION	LOCATION	TERMINATION	LOCATION
Screw Terminals	Front	Screw Terminals	Front
Screw Terminals	Front	AN Connectors	Front
Jacks	Front	AN Connectors	Front



WEATHERPROOF STYLE (BRJW SERIES)

INPUT TERMINATION	OUTPUT TERMINATION
Screw Terminals	Screw Terminals



SPECIFICATIONS

Power Requirements: 105 to 125 Volts, 60 cps.
25-30 Volts DC
on special order.

Power Consumption: 400 watts warm up
(15 min.). 50 watts
operation.

Junction Temperature: * 32° F standard.

Temperature Stability: $\pm 1/2^\circ$ F long term
unattended operation.

Temperature Uniformity: $\pm 1/8^\circ$ F.

Ambient Temperature: -30 to +110° F with
less than $\pm 1/4^\circ$ F
reference temperature
variation.

Thermocouples: One type, as specified, all chan-
nels. Models available with two
or more thermocouple types on
special order.

Size: See dimensional outlines.

* Other temperatures available on special order.

**For Models to meet Special Requirements, consult
our Engineering Staff. Collect calls will be accepted
for application and engineering assistance.**

REPRESENTED BY

ORDERING INFORMATION

A. MODEL DESIGNATION

BRJ R 18 - 12 T P

- Indicates Output Termination } P = Connector
- Indicates Input Termination } T = Screw Terminals
- Number of Channels. (Multiples of 12 Standard)
- Indicates below ambient reference temperature.
- R = Rack Mount. Omit for Cabinet Style.
- Basic Model Designation

B. ADDITIONAL INFORMATION REQUIRED:

- Thermocouple Materials
e.g. 12 Channels Chromel-Alumel
- Location of Input and Output Terminations in Rack
Mounting Units. See tables above.

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